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U.S. Department of the Interior • U.S. Geological Survey

# MINERAL INDUSTRY SURVEYS

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**Precious Metals, Monthly**

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## PRECIOUS METALS IN JUNE 1996

### Domestic:

U.S. mines produced 25,900 kilograms of gold and 127,000 kilograms of silver in June.

*Engineering and Mining Journal (E&MJ)*, reported in its June issue that Canyon Resources Corp., Golden, CO, had announced the completion of the required permit applications for the 252,000-kilogram (8.1-million-troy-ounce) McDonald gold project in Montana. The project was being permitted and developed by the Seven-Up Pete Joint Venture, which consists of Phelps Dodge Mining Company, operator and majority owner, and Canyon Resources, 27.75% owner. Mine construction at the McDonald deposit was reportedly expected to commence in the summer of 1997, with the mine having a designed productive life of 12 to 16 years.

*Platt's Metals Week* reported on June 24 that U.S. Department of the Interior Secretary Bruce Babbitt had again called for the U.S. Congress to reform the Mining Law of 1872. This reportedly followed Secretary Babbitt's announcement that he was forced to sign away the title to valuable taxpayer-owned mineral deposits at well below their market value. This occurred when he was required to grant a patent to Santa Fe Pacific Gold Corp that provided title to and authority to mine 133.8 hectares (330.6 acres) of public land in Humboldt County, Nevada.

### International:

The second quarter *CIS Metals Review* published by CRU International of London reported that BHP Minerals, San Francisco, CA, had secured a tender to

explore an area of approximately 10 to 12 square kilometers within the Amur River basin in the Russian Far East. The area was thought to contain several lode gold occurrences.

With an advertisement in the June issue of the *E&MJ*, the Ministry of Petroleum and Minerals of the Sultanate of Oman announced that it was releasing six Exploration/Development Blocks with copper and gold occurrences in northern Oman for competitive bidding by private companies.

It was also announced in the June issue of the *E&MJ* that Oroperu Resources Ltd. had started testing the geological structures and mineralization of the company's El Toro gold prospect in northern Peru. The first phase of a widely spaced reverse circulation drilling program over selected portions of the project area was started in December 1995, and Oroperu reportedly had completed 26 exploration holes, totaling 3,677 meters, by mid-1996. Oroperu is the operator of the exploration project, and Barrick Gold Corp. reportedly holds an option to earn a 60% interest in the property.

*Metal Bulletin Monthly (MBM)* reported in its June issue that Ghana-based Ashanti Goldfields Co. had recently purchased Golden Shamrock Mines, an Australian company, for approximately \$290 million. Golden Shamrock reportedly controls 70% of the Iduapriem open pit gold mine in Ghana, 70% of Siguiri I gold project in Guinea, and 100% of the Cobar copper mine in Australia.

The June issue of *Mining Engineering* indicated that Canada's Royal Oak Mines had stated that it was

moving ahead with the construction and development of its Kemess gold-copper project in north central British Columbia. The Kemess Mine reportedly would have an annual production rate of approximately 6.6 metric tons (213,000 ounces) of gold and 26,000 tons (58 million pounds) of copper. Kemess was expected to have a mine life of approximately 20 years, based on current reserves and production rates.

Additionally, the June edition of *Mining Engineering* noted that a new series of Cook Island gold coins were among the first minted and issued in the world incorporating multiple colors in their designs. The designs feature the Walt Disney cartoon characters Mickey and Minnie Mouse. These cartoon characters reportedly appear on the coins to mark 1996 as being the Year of the Mouse in the Chinese lunar calendar. The coins are a collaborative effort of the Government of the Cook Islands, the Walt Disney Co., and Australia's Perth Mint.

On June 4, *American Metal Market* indicated that a consortium headed by Teck Corp., Vancouver, BC, had won a tender to develop Kazakstan's Vasilkovskoye gold deposit; however, final terms of the agreement remain to be established.

In a June 7 press release, Freeport-McMoRan Copper & Gold Inc. announced that exploration drilling from the Amole tunnel area within the "Golden Triangle" area at P.T. Freeport Indonesia Co.'s Grasberg mining operation in Irian Jaya, Indonesia, had intersected more than 520 meters of mineralized ground grading 1.76% copper and 1.54 grams of gold per ton. This and other exploration drilling at the Kucing Liar/Amole prospect continued to suggest that the Waripi formation and the underlying Kembelangan formation in this area appear to have extensive skarn-type copper/gold mineralization that may represent a mantle of copper and gold around the base of the already discovered prolific Freeport-McMoRan copper/gold deposit at Grasberg.

In a news brief attributed to *Reuters News Service*, *American Metal Market* reported on June 12 that production at the Paul Isnard gold mine in French Guiana, owned by a subsidiary of Golden Star Resources Ltd., Denver, CO, had been halted by a labor strike. The mine reportedly had been closed for more than a week by a dispute over salary and vacation rights.

Also on June 12, Ariel Resources Ltd., Vancouver, BC, announced that further work had confirmed the extension of a previously reported bonanza zone on the 7th level of the Tres Hermanos gold mine in Costa Rica. Development work had determined that the earlier outlined 5.5-meter-wide zone reflected a split of the main vein into a 2-meter-wide western vein and a 2-meter-wide eastern vein separated by a 1.5-meter

pillar of lower grade material. Ariel reportedly had driven a drift 35 meters into the zone, and the company indicated that gold grades continued to be significant.

*Metal Bulletin*, in its June 13 issue, stated that the European Bank for Reconstruction and Development (EBRD) was placing its highest priority on investing in gold projects in the republics of the former Soviet Union (FSU) and eastern Europe. This decision reportedly was due to the fact that the logistical difficulties of transporting and exporting other types of metal in this part of the world are apparently overwhelming, and foreign investment is currently more attracted to gold projects.

In addition, on June 13, *American Metal Market* reported that according to Reuters News Service, FMC Gold Co. announced that its board of directors had approved a merger agreement to effect a reincorporation into Canada. Reportedly, under the agreement FMC Gold would be merged with a Canadian holding company into a new enterprise called Meridian Gold Inc. Following the merger, FMC Corp., Chicago, IL, which owns 80% of FMC Gold, would make a secondary public offering in the United States of essentially all of its equity interest in Meridian Gold.

In another merger-related matter, the June 13 issue of *American Metal Market* reported that according to the *Knight-Ridder* news organization, Manhattan Minerals Corp., Great Lakes Minerals Inc., and Santa Cruz Gold Inc. announced that they had agreed to a 3-way merger, subject to shareholder, court, and regulatory approvals. The newly merged entity would be named Manhattan Minerals Corp. and be headquartered in Vancouver, BC.

*Mining Journal* reported on June 14 that Fluor Daniel Wright had completed a prefeasibility study on the Red Chris copper-gold deposit near Dease Lake in north central British Columbia, Canada. Red Chris is a joint venture of American Bullion Minerals (80%) and Teck Corp. (20%). The study reportedly had been passed on to Teck for review and, prior to August 3, 1996, it could elect under the joint-venture agreement to proceed as project operator by completing a final bankable feasibility study over the next 12-month period. If Teck should decide to arrange financing for the project and bring the deposit into production, it will have earned the right to increase its holding in the property up to 55%.

In addition, according to the June 14 issue of *Mining Journal*, Teck Corp., Vancouver, BC, announced plans for an expansion into Australia through a "strategic alliance" with Camelot Resources, Perth, WA. Contingent on the approval of Camelot's shareholders, Teck proposed joining Camelot in pursuing gold

exploration and acquisitions in Australia. The association would reportedly be finalized through the purchase by Teck of a 14.9% share in Camelot for \$4.5 million (A\$5.8 million). The Perth-based company's existing assets included the wholly owned 1,870-kilogram (60,000-ounce)-per-year Mt. Gibson gold mine in Western Australia.

*Platt's Metals Week* reported in its June 17 issue that the protracted and often acrimonious legal battle involving ostensible environmental damage caused by the Ok Tedi copper-gold mine in Papua New Guinea had been settled when the mine's majority owner, BHP, signed a settlement with representatives of 30,000 landholders within the Ok Tedi/Fly River system.

The June 24 issue of *Platt's Metals Week* reported that the central theme of the World Gold Council annual meeting held on June 20 in New York City, NY, was that although world gold production had reached record levels in recent years, it was still inadequate to satisfy the rapidly increasing demand for gold jewelry, which has continued to outstrip mine production.

In a June 25 news release, Placer Dome Inc., Vancouver, BC, announced that a major renewal plan was under way to improve the economics of its high-cost Sigma gold mine in Quebec, Canada. Effective July 10, as a part of this program, the mine's work force would be reduced by approximately 100 employees, from Sigma's recent level of 325 workers. The initial element of the mine renewal involved reducing ore production from high-cost underground operations, which accounted for the requirement to lay-off the employees, and increasing ore production from the company's Sigma II open pit mine. Mining of higher grade underground stopes was expected to partially offset the impact of processing lower grade ores from the open pit operation.

Additionally, according to the June 25 issue of London's *Financial Times*, Mr. Ted Reeve, an equity analyst at Scotia Capital Markets, indicated at the

recent *Financial Times* World Gold Conference held in Venice, Italy, that there has been no drop in total overall hedging levels by North American gold producers in spite of some recent liquidation of forward sales by two of the world's larger gold hedgers--Barrick Gold and Placer Dome. Mr. Reeve noted that while these two gold producers were partially reducing their hedging positions, two other North American companies, Amax Gold and Santa Fe Gold, were steadily increasing their hedging activities. He predicted that total hedging levels in North America would probably rise slightly over time.

#### **Update:**

On July 29, *Platt's Metals Week* indicated that Pegasus Gold Corp., Spokane, WA, and its Montana-based subsidiary Zortman Mining Inc. had agreed to spend a total of \$37 million to settle lawsuits relating to reported water pollution at the Zortman and Landusky gold mines in Montana. The settlement, reportedly filed on July 22 at the U.S. District Court in Billings, MT, closed 3 years of conflict with State and Federal agencies regarding water quality violations at the two Phillips County mines. The Zortman Mine was one of the first major cyanide heap-leach gold mining operations in the United States, and has been in continuous operation for more than 15 years. The mine reportedly must now comply with a program of strict effluent limits until toxic discharges are eliminated.

The August 19 issue of *The Wall Street Journal* reported that Barrick Gold Corp., Toronto, ON, had raised its recent offer to acquire Arequipa Resources Ltd., Vancouver, BC, to \$800 million (C\$1.10 billion) (*See Update section of Precious Metals MIS, May 1996*). The Barrick action reportedly won the support of Arequipa's board of directors and may act to ward off other potential bidders for acquisition of the company. Arequipa owns the promising, but unproven, Pierina gold deposit in Peru.

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#### **Publications on the Internet (<http://minerals.er.usgs.gov/minerals>)**

Monthly, quarterly, and annual Minerals Information publications are now available through the World Wide Web (www). These publications include the Mineral Commodity Summaries, Minerals Yearbook, Mineral Industry Surveys, and Metal Industry Indicators. To access Minerals Information publications, visit the Minerals Information home page at <http://minerals.er.usgs.gov/minerals>.

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TABLE 1  
MINE PRODUCTION OF RECOVERABLE GOLD AND SILVER IN THE UNITED STATES, BY STATE 1/

(Kilograms)

States	1995 p/							
	May	June	July	August	September	October	November	December
<b>Gold:</b>								
Arizona	217	225	223	259	255	231	235	233
California	1,750	1,870	1,640	1,630	1,480	1,520	1,940	1,730
Idaho	246	248	239	236	240	236	261	277
Montana	1,060	1,130	1,200	1,390	1,230	1,420	1,350	894
Nevada	18,300	18,300	18,600	18,100	18,700	19,000	20,200	19,900
Other States 2/	4,610	4,400	4,720	5,340	4,630	4,160	3,850	4,310
Total	26,200	26,200	26,700	26,900	26,500	26,600	27,800	27,300
	1995 p/	1996 p/						
	Jan. - Dec.	January	February	March	April	May	June	Jan. - June
Arizona	2,780	236 r/	229 r/	178 r/	161 r/	167 r/	147	1,120
California	20,200	2,320	2,150	2,420	2,460	2,380	2,410	14,100
Idaho	3,000	255	266	266	266	265	265	1,580
Montana	13,600	803	654	847	980 r/	971 r/	959	5,210
Nevada	222,000	15,100	15,700	17,100	16,100	17,800 r/	17,900	99,700
Other States 2/	51,500	4,230	3,900	4,440	4,260	4,030	4,170	25,000
Total	313,000	23,000	22,900	25,300	24,200 r/	25,600	25,900	147,000
		1995 p/						
	May	June	July	August	September	October	November	December
<b>Silver:</b>								
Arizona	14,600	16,800	13,400	16,000	14,800	15,900	15,600	16,700
California	1,010	1,020	998	978	888	996	1,220	1,200
Idaho	14,900	13,600	15,200	17,000	15,000	14,900	12,400	12,700
Missouri	4,160	7,380	3,650	4,130	3,050	2,380	3,120	3,040
Montana	6,760	6,100	7,390	7,230	6,910	6,630	7,360	6,780
Nevada	47,100	44,300	47,300	73,900	68,900	56,200	49,000	54,800
Other States 3/	32,100	31,300	31,100	34,400	29,900	24,000	21,200	25,800
Total	121,000	120,000	119,000	154,000	139,000	121,000	110,000	121,000
	1995 p/	1996 p/						
	Jan. - Dec.	January	February	March	April	May	June	Jan. - June
Arizona	172,000	14,900 r/	16,500 r/	13,100 r/	14,700 r/	15,100 r/	13,000	87,300
California	12,100	1,300	1,280	1,360	5,460	1,840	1,410	12,600
Idaho	161,000	12,400	13,000	14,800	9,910 r/	15,600 r/	15,100	80,800
Missouri	45,400	3,110	3,070	3,620	3,980	2,930 r/	2,850	19,600
Montana	75,800	5,810	5,130	4,660	5,090 r/	5,270 r/	5,680	31,600
Nevada	653,000	42,700	42,600	44,000	39,800	49,400	58,300	277,000
Other States 3/	336,000	27,700	23,000	26,800	25,700	26,100 r/	30,600	160,000
Total	1,460,000	108,000 r/	105,000 r/	108,000 r/	105,000 r/	116,000 r/	127,000	669,000

p/ Preliminary. r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes Alaska, Colorado, New Mexico, South Carolina, South Dakota, Utah, and Wisconsin.

3/ Includes Alaska, Colorado, Michigan, New Mexico, New York, South Carolina, South Dakota, Utah, and Wisconsin.

TABLE 2  
SELECTED PRECIOUS METAL PRICES

(Dollars per troy ounce)

	Gold	Silver	Platinum	Palladium
<u>Engelhard Industries:</u>				
<u>1995:</u>				
<u>Year:</u>				
Low/date	373.68 (Jan. 09)	4.39 (Mar. 03)	404.00 (Mar. 02)	130.00
High/date	396.87 (Apr. 19)	6.02 (May 04)	462.00 (May 04)	179.00
Average	385.50	5.21	425.36	153.34
<u>1996:</u>				
<u>May:</u>				
Low/date	391.86/31	5.30/23	397.00/22	131.00
High/date	396.12/08	5.49/08	406.00/03	137.00
Average	393.29	5.37	402.09	134.00
<u>June:</u>				
Low/date	384.50/21	5.05/14	391.00/11	131.00
High/date	392.01/03	5.38/03	401.00/03	134.00
Average	386.58	5.14	393.45	133.00
<u>July:</u>				
Low/date	382.85/01	5.05/30	391.00/12	133.00
High/date	386.6/31	5.11/12	401.00/31	137.00
Average	386.58	5.14	393.45	133.00
<u>Year to date:</u>				
Low/date	382.85 (July 01)	5.05 (June 14) (July 30)	391.00 (June 11) (July 12)	128.00
High/date	416.16 (Feb. 05)	5.82 (Feb. 02)	433.00 (Feb. 05)	146.00
Average	384.96	5.04	394.85	134.00
<u>Handy and Harman:</u>				
<u>1995:</u>				
Average	384.22	5.19	XX	XX
<u>1996:</u>				
May	391.98	5.36	XX	XX
June	385.58	5.14	XX	XX
July	383.69	5.02	XX	XX
Year to date	395.18	5.42	XX	XX
<u>London Final:</u>				
<u>1995:</u>				
Average	384.16	5.22	XX	XX
<u>1996:</u>				
May	391.93	5.37	XX	XX
June	385.27	5.16	XX	XX
July	383.47	5.06	XX	XX
Year to date	395.08	5.44	XX	XX

XX Not applicable.

Source: Platt's Metals Week.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION AND EXPORTS OF GOLD, BY COUNTRY 1/

(Kilograms of gold content, unless otherwise specified)

Country	Ores and concentrates 2/	Dore and precipitates	Refined bullion 3/	Total	Waste and scrap 4/ (gross weight)
<b>Imports:</b>					
1995:					
Year	5,020	9,820	111,000	126,000	14,400
1996:					
March	256	974	11,100	12,300	1,240
April	361	790	12,800	13,900	1,120
May:					
Brazil	--	--	1,740	1,740	--
Canada	--	--	8,410	8,410	112
Chile	--	656	1,280	1,930	37
Colombia	--	--	1,820	1,820	--
Dominican Republic	--	--	46	46	378
Ecuador	--	--	35	35	12
Mexico	197	463	637	1,300	216
South Africa	--	--	1,060	1,060	--
Other	--	22	693	715	350
Total	197	1,140	15,700	17,000	1,110
Year to date	1,570	4,630	59,100	65,200	5,480
<b>Exports:</b>					
1995:					
Year	345	69,700	277,000	347,000 5/	74,700 5/
1996:					
March	9	7,550	64,500	72,000	10,200
April	3	2,940	90,600	93,500	9,550
May:					
Canada	7	1,620	332	1,960	3,820
France	1	--	--	1	--
Germany	31	--	--	31	2,680
Japan	--	--	529	529	2
Korea, Republic of	--	--	3,520	3,520	--
Switzerland	--	276	36,600	36,800	--
United Kingdom	--	830	27,400	28,200	687
Other	2	3	1,110	1,110	513
Total	41	2,730	69,400	72,200	7,700
Year to date	62	15,400	259,000	274,000	44,300

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes gold content of base metal ores, concentrates, and matte imported for refining.

3/ Bullion also moves in both directions between U.S. markets and foreign stocks on deposit in the Federal Reserve Bank. Monetary gold excluded.

4/ "Waste and scrap" not included in "Total."

5/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 4  
U.S. IMPORTS FOR CONSUMPTION AND EXPORTS OF SILVER, BY COUNTRY 1/

(Kilograms of silver content, unless otherwise specified)

Country	Ores and concentrates 2/	Dore and precipitates	Refined bullion	Total	Waste and scrap 3/ (gross weight)
<b>Imports:</b>					
1995:					
Year	225,000	395,000	2,630,000	3,250,000	2,140,000
1996:					
March	7,160	18,100	222,000	247,000	211,000
April	14,300	14,300	215,000	243,000	173,000
May:					
Australia	--	--	--	--	10,700
Canada	1	--	67,500	67,500	22,100
Chile	--	9,610	7,500	17,100	167
Dominican Republic	--	1,040	5,230	6,270	90
Germany	--	--	--	--	26,800
Japan	--	--	--	--	4,310
Malaysia	--	--	--	--	24,900
Mexico	13,000	506	71,100	84,600	76
Peru	--	--	57,200	57,200	--
United Kingdom	--	--	--	--	61,000
Other	--	138	--	138	457
Total	13,000	11,300	209,000	233,000	151,000
Year to date	49,900	117,000	1,100,000	1,270,000	774,000
<b>Exports:</b>					
1995:					
Year	743	72,100	2,810,000 4/	2,880,000	1,580,000
1996:					
March	250	18,500	81,700	100,000	179,000
April	--	5,960	177,000	183,000	98,600
May:					
Belgium	--	--	104,000	104,000	29,000
Canada	--	--	--	--	39,400
China	5	--	--	5	10,500
Denmark	--	--	49,800	49,800	--
France	--	--	--	--	2,250
Germany	--	--	--	--	3,070
Japan	--	--	14,700	14,700	30,900
Sweden	--	--	--	--	2,270
Switzerland	--	657	--	657	--
United Arab Emirates	--	--	37,600	37,600	--
United Kingdom	55	--	14,200	14,200	37,900
Uruguay	--	--	1,230	1,230	--
Other	--	--	640	640	1,370
Total	60	657	222,000	223,000	157,000
Year to date	521	27,000	614,000	641,000	639,000

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes silver content of base metal ores, concentrates, and matte imported for refining.

3/ "Waste and scrap" not included in "Total."

4/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 5  
U.S. IMPORTS FOR CONSUMPTION AND EXPORTS OF PLATINUM-GROUP METALS, BY COUNTRY 1/

(Kilograms of metal content, unless otherwise specified)

Country	Ores and concentrates	Waste and scrap (gross weight)	Refined					
			Platinum	Palladium	Rhodium	Iridium	Osmium	Ruthenium
Imports:								
1995:								
Year	123	6,350	71,500 2/	124,000	9,600	1,450	69	7,520
1996:								
March	--	306	6,430	11,900	740	225	--	1,190
April	--	416	8,170	9,530	967	176	--	5,740
May:								
Belgium	--	--	--	512	16	--	--	--
Canada	--	2	75	133	--	--	--	--
China	--	--	--	110	--	--	--	--
Colombia	--	--	18	--	--	--	--	--
Germany	--	27	293	119	23	10	--	43
Japan	--	--	171	346	16	--	--	--
Mexico	101	155	--	--	--	--	--	--
Norway	--	--	28	170	2	--	--	--
Russia	--	132	1,090	2,900	381	--	--	--
South Africa	--	--	2,580	1,170	513	19	--	519
Switzerland	--	--	276	336	--	1	--	2
United Kingdom	--	533	436	738	166	25	--	12
Other	--	124	11	259	51	--	--	--
Total	101	973	4,980	6,790	1,170	55	--	576
Year to date	101	2,470	30,300	40,700	4,170	683	311	9,650
Exports:								
1995:								
Year	598	8,150	19,900	26,000	742	85 3/		
1996:								
March	27	257	1,200	2,490	28	22 3/		
April	53	952	787	1,520	17	5 3/		
May:								
Belgium	--	133	121	278	--	--		
Canada	--	2	30	62	--	--		
France	--	--	19	5	--	--		
Germany	--	122	100	123	--	1 3/		
Hong Kong	--	--	--	3	--	1 3/		
Ireland	--	--	201	--	51	--		
Japan	--	158	42	126	--	--		
Korea, Republic of	1	--	70	32	2	--		
Mexico	--	--	4	231	--	--		
Netherlands	--	--	28	601	--	--		
Singapore	--	--	--	69	--	--		
Sweden	--	4	6	--	--	--		
Switzerland	15	--	1	70	--	--		
Taiwan	--	--	1	140	--	--		
United Kingdom	--	510	63	123	--	--		
Other	--	2	179	115	--	--		
Total	16	931	865	1,980	53	2 3/		
Year to date	168	2,880	6,120	9,690	120	35 3/		

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Of this amount 1,070 kilograms was in the form of platinum coins.

3/ Includes osmium and ruthenium.

Source: Bureau of the Census.